RDS800C 800W Switching Module – Installation, Programming and Operating Instructions.

General

The Rako RDS800C switching module is designed for switching non-dimmed loads so that they can be incorporated as part of a lighting scene.
Rako RDS switching modules are designed to be installed in a lighting circuit and are controlled from Rako scene-sender panels transmitting Rakom encoded radio signals.
Modules are supplied with external aerials and are designed to be remotely mounted.

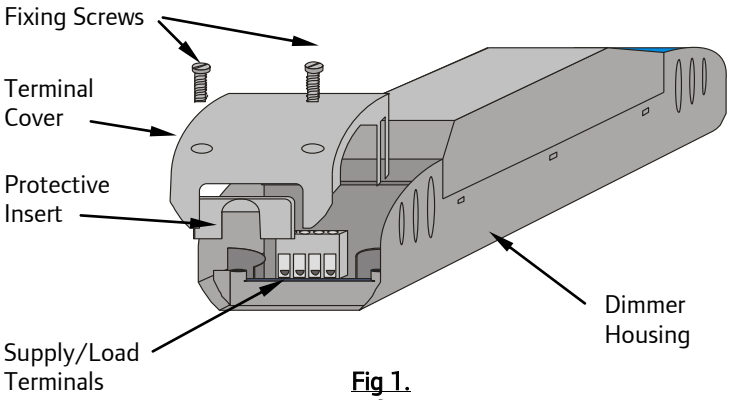


Fig 1.
Front View of Components

Installation

Before commencing installation of a Rako switching module first read this instruction manual carefully.
Rako Controls Ltd accepts no responsibility for any damage or injury caused by incorrect installation of a Rako product.

Installation should only be carried out by a competent electrician.

Never attempt to connect a Rako switch module or remove the terminal covers without first isolating the circuit at the fuse/MCB board.

The circuit supplying a Rako switch module should always be protected by either a 5A fuse or 6A MCB. Under no circumstances should any protection devices with higher ratings be used.

Although there is minimal heat generated from the switching module it is recommended that they are mounted in areas that are adequately ventilated, dry and outside of any enclosed metal casings. Wherever possible the modules should be securely fixed using the mounting holes provided. The mounting holes are blanked off when supplied but are designed so that a woodscrew will easily cut through without the need for drilling.
Whilst the Rako dimmer/switching modules are designed to be completely maintenance free the units should be mounted in a position where access can be gained should there be a fault or re-addressing of the unit be necessary (see 'Set-up and Addressing').

Permissible loadings.

Rako RDS800C switching module is designed to control loads of up to 800W. The units are fitted with robust relays designed to switch fluorescent loads however, when determining the load on a circuit care must be taken to take into account the necessary power factor and in-rush currents. Particular caution must be taken when switching discharge lighting.

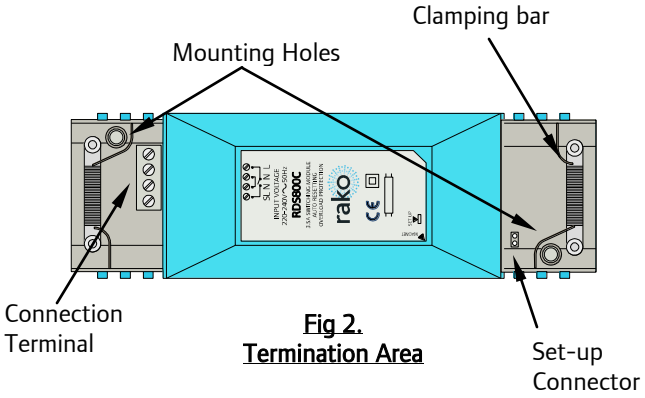


Fig 2.
Termination Area

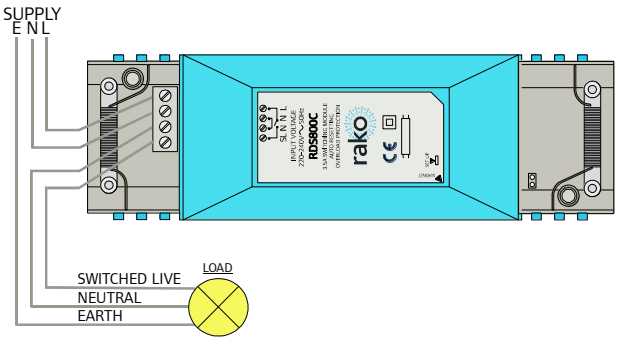


Fig 3.
Connection Detail

Note:

To ensure that the cable clamping operates satisfactorily the cabling both supplying the switching module and to the load should be a minimum of 0.5mm² with double safety insulation and the wires should be stripped to ensure that the cable bar within the terminal cover clamps firmly on both sets of insulation.

To install a Rako switching module isolate the supply then remove the Terminal Covers (see Fig.1) giving access to the supply/load terminals. The necessary connections are indicated on the label on the dimmer housing. The notation is as follows:

L – Live wire from the supply (normally coloured Brown)
N – Neutral (normally coloured Blue)
⏚ - Earth (normally coloured Green/Yellow)
SL - Switched supply to load

Installation (continued)

Once the supply and load cables are connected, ensure that the terminal covers are replaced and securely fastened, clamping the cable correctly as detailed above, before powering the unit.

Rako switching modules are not designed for loop in/loop out connections. Should it be necessary to loop the supply on to further fittings then a junction box should be connected in circuit to facilitate this.

With the supply and load connected and prior to switching on the supply ensure that the terminal covers are fitted and that they are securely clamping the cables. It is important to ensure that the protective inserts (see Fig.1) are fitted and located securely, both in the terminal cover and over the supply and load cables. The protective inserts provide important protection against the risk of electric shock from conductive objects forced down the side of the cables.

When power is connected the Rako unit will switch to on. In this way it is possible to leave a conventional lighting switch in circuit to set the module to the on state without the use of a Rako control panel. Such a lighting switch can also be used as an override in the event that the batteries in a Rako control panel are not replaced when the low-battery warning signals indicate that this should be done.

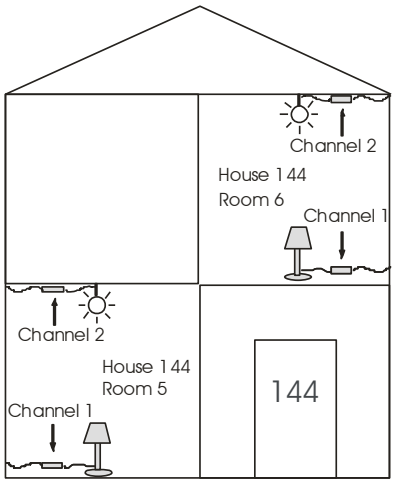


Fig 5.
Addressing Example

Set-up and Addressing

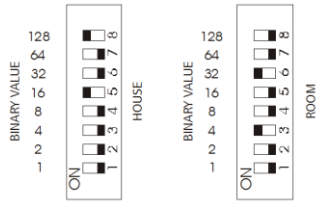
Before any lighting scenes can be programmed (see the wall panel or handheld instruction manual) the receivers need to be addressed.

To avoid interference between rooms or neighbouring installations a Rako system should be set to an address other than the factory default of House 1 Room 4. The preferred addressing method is to select a logical House address number for the project, separate Room addresses for each room within the house and then sequential Channel numbers for each receiver within each room (see Fig.5) i.e. Channel 1 for the 1st receiver, Channel 2 for the 2nd etc. The House and Room addresses are set using the DIP switches on the back of a Rako controller (see Fig.4) and the Channel address is set by 'stepping' through the channel numbers with a panel in programming mode (see Step 3 overleaf) and then sending this number (along with the House and Room address) to a receiver (Step 5).

Setting the address switches.

Each Rako transmitter has two, 8 way banks of switches for setting its address. The two sets of switches allow the user to choose from 256 house addresses and 256 room addresses. To set the address, unclip the rear cover whereupon the banks of switches will be now become visible. To set an address, use a small terminal screwdriver or similar device and carefully move some of the switches into the 'ON' position. Addressing uses binary encoding and the value of the switches is shown below.

Note: Any control panels set with the same address will act as two or multi way controls.



House address
= 128+16=144

Room address
= 32+4=36.

Fig 4.
Addressing Switches

Notes on addressing.

A module will not receive an address of House 0 (All switches set to off)
A switch will respond to, but not receive an address of Room 0 (All switches set to off). This Room 0 address is used for 'Master House' control
A switch cannot be set to channel 0.
To program a lighting scene see Wall panel or Hand held manual.

Care and maintenance

A Rako receiver module contains no user serviceable parts. Should for any reason you need to contact us please contact us via our website www.rakocontrols.com or by phoning our customer help line on 01634 226666.

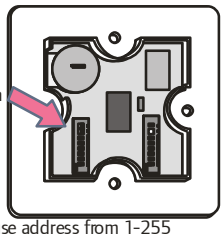
Initial Addressing of a Rako Receiver Module

Note:

In the following procedure both the controllers (wall panels and hand held remotes) and the receivers have an automatic time out after approximately 3 minutes when in programming or set-up mode. This feature avoids the possibility of either being left permanently in programming or set-up mode. This may cause confusion if either the controller or receiver times out before the procedure is complete. It is worth becoming familiar with the procedures before starting the addressing procedure. If at any time it is necessary to start again the controllers can be returned to normal mode by pressing the 'Off' button and the receivers by resetting the electrical supply.

Step 1

Set address switches on controller

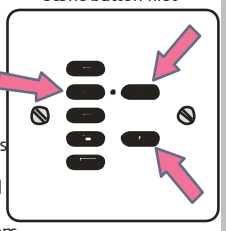


Pick an House address from 1-255 (keep same address for all panels in house)
Select Room addresses from 1-255 for each room (Room 0 is master house control)

Step 2

TIP
Press the scene button first

Put controller into programming mode by pressing and holding a scene button and both raise and lower buttons together. After 5 seconds the red LED on the panel starts to flash. The panel is now in programming mode. Release the buttons



Note:
A Rako panel will always enter programming mode at Channel 0. It is not possible to give a receiver an address of Channel 0 but this gives a consistent starting point.

Note:
When in programming mode the buttons have functions as detailed in table 1.

TABLE1

Button	Action
1	Step up one channel and ident
2	Step down one channel and ident
3	Ident
4	Store
Off	Exit programming

Is the controller still in programming mode (red LED flashing)

NO

YES

Step 3

Press button 1 once to step up one channel.
If this is the desired channel i.e. Channel 1(for the 1st receiver) then go to Step 4. If not, press button 1 again to step up to channel 2 (for the 2nd receiver), again to step to channel 3 etc, until the desired channel number is reached (maximum = 15).
It is this channel number (along with the House and Room address) that is sent to the receiver in Step 5. If at any point it is necessary to step down a channel, press button 2 once.

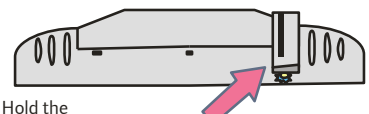
Note

If some receivers are already addressed to a the wall panel then they will 'flash' their connected lamps as their channel number is reached during the stepping procedure, this allows the user to 'identify' which channel numbers are already taken. To add a new receiver to an existing installation step up through the channels until a channel number is reached where no receiver flashes a load, this is then an available channel. If at any point there is uncertainty as to whether a receiver actually flashed its load then button 3 will flash the load but without stepping up or down a channel. If all of the loads flash then this indicates that the current address is Channel 0.

Note: If it is not possible to see the connected lamps flashing when stepping through the channels it is possible to tell from the LEDs in the receivers which will momentarily go solid when their channel address is reached.

Go to the receiver to be addressed

Step 4



Hold the magnet against casing at point indicated on the label until LED illuminates and keep the magnet held with the LED on until it starts to flash. Then remove magnet. Module is now in set-up mode.
Note: If a receiver is already addressed to a controller (for example a receiver is addressed to the controller but with the wrong channel number) then the LED will be flashing as soon as the panel is put into programming mode. It will, however, still be possible to re-address this receiver using the magnet as normal.

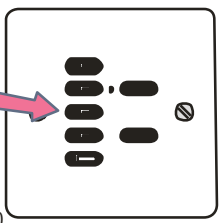
Is there another receiver in the room to be addressed

YES

NO

Step 5

Press button 3 to send the ident of the channel selected in step 3. Receiver automatically returns to normal mode (blue LED goes out) while controller remains in programming mode (red LED keeps flashing)



Step 6

Press Off button to exit controller from programming mode